GrummanWorld

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Data Systems Wins $84 Million USAF Pact

The Air Force has awarded Grumman Data Systems a contract for the development of a system that will allow Air Force Logistics Center Depot managers and technicians to better plan and manage aircraft and weapons systems.

The Depot Maintenance Management Information System (DMMIS) contract is Data Systems' biggest contract ever. If all options are exercised, the 12-year contract will be worth $84 million.

"As technologies gain in complexity, depot maintenance centers become more important in ensuring readiness to sustain our combat forces," says Grumman Data Systems President Bob Myers. "We are confident that our winning proposal will provide the savings and efficiencies of a state-of-the-art information system."

Data Systems will develop and install this computer management information and operations system. It will ultimately keep the Air Force at a high rate of combat readiness by managing the flow of aircraft maintenance, maintenance materials and supplies, and related support equipment.

DMMIS is one on-line system replacing 33 different systems that now manage and coordinate all the overhaul and repair activities at the Air Logistics Centers.

As a management information system, DMMIS will monitor and control the center's resources and budget. It will also track work in progress, including the current status of parts and labor.

In addition, the system will increase the Logistics Centers' ability to forecast repair and maintenance services as well as distribute the work load evenly.

"Winning the DMMIS contract was one of the major targets set for Data Systems this year," says Myers. "I'm happy to see that the hard work we put in last year to turn around our win record paid off."

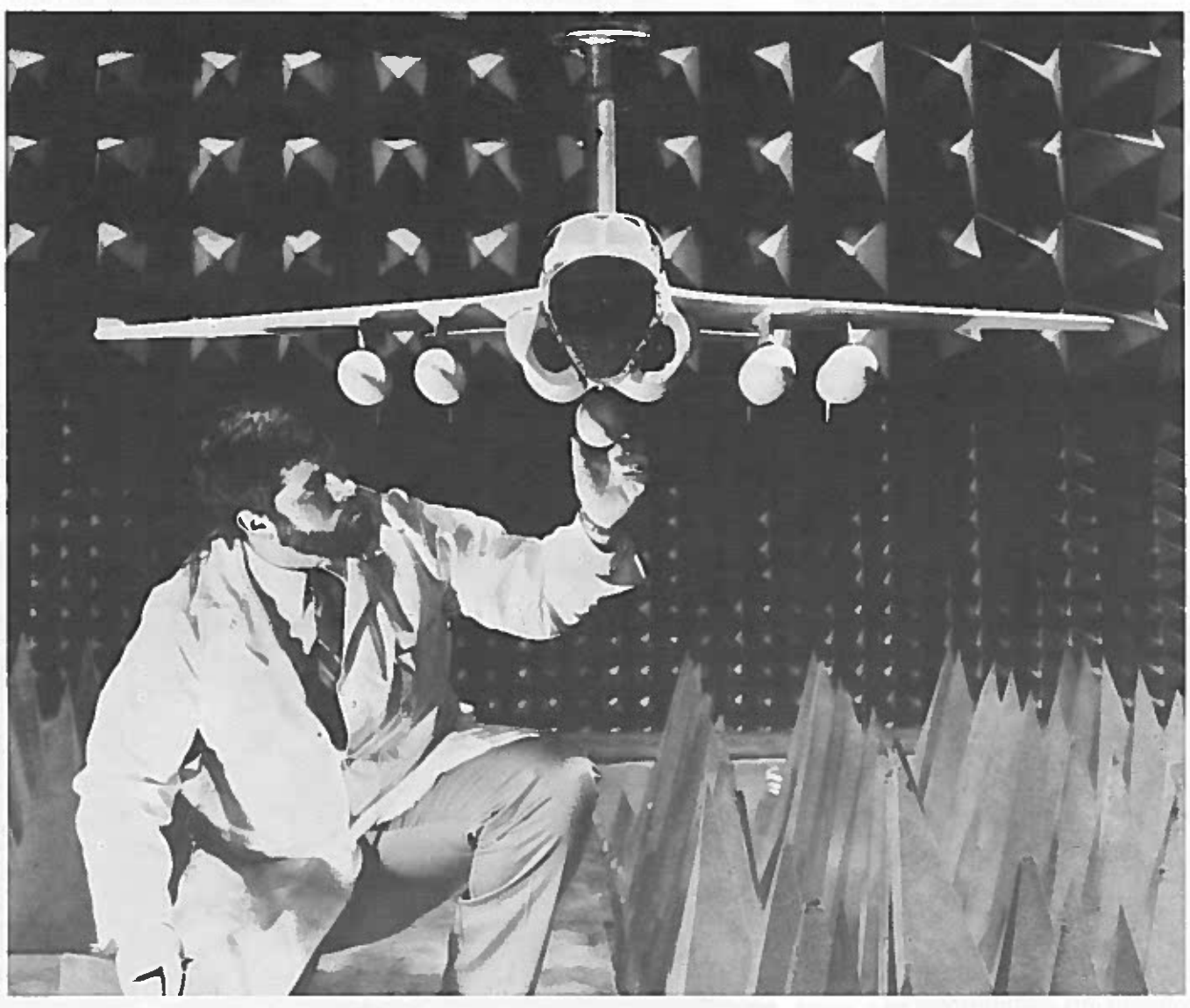
Data Systems will provide program management and systems engineering and integration, including installing hardware, customizing software and maintaining the new system.

"Grumman is well qualified for this contract because of its extensive experience in aerospace and aircraft systems," says Ron Bury, DMMIS program vice president. "We look foward to a long and successful relationship with the Air Force."

In its first five-and-a-half years, the contract calls for DMMIS to be installed at six Air Force sites: Ogden Air Logistics Center at Hill Air Force Base, Utah; Aerospace Guidance and Metrology Center at Newark Air Force Base, Ohio; Oklahoma City Air Logistics Center at Tinker Air Force Base, Oklahoma; San Antonio Air Logistics Center at Kelly Air Force Base, Texas; Warner Robins Air Logistics Center at Robins Air Force Base, Georgia; and Sacramento Air Logistics Center at McClellan Air Force Base, California.

Grumman will manage the DMMIS project from its Fairborn, Ohio, facility, near the Command's headquarters at Wright-Patterson Air Force Base. About 100 engineers, computer programmers, systems analysts and technicians hired from the Dayton area will work on the project.

The company heads a team with four major subcontractors. Cincom Systems of Cincinnati, Ohio, will customize management resource planning software and provide a database management system. Bonner & Moore of Houston, Texas, will provide the preventive maintenance scheduling system. Ernst & Whinney of Cincinnati, Ohio, will supply financial systems development and Factorial Systems of Austin, Texas, will develop software for shop floor control.■



Energy Absorber. *In the anechoic chamber in the Antenna and Radome Test Facility in Building 14, Bethpage, test engineer Vincent SanFilippo positions a scale model of an A-6. In the chamber, scale models and new antenna designs are tested. The walls, ceiling and floor of the chamber are covered with polyurethane pyramids. These pyramids absorb energy from communications and radar signal transmitters and keep the energy from being reflected back to the test antenna. (Photo by Harry Prodromides)*

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Upgraded E-2C Hawkeye Bound For Pax River

The Navy is scheduled to take delivery this month of the first E-2C Hawkeye equipped with five major improvements.

The aircraft, No. A-122, will have two new 427 engines, a new radar, plus a new air cycle, equipment cooling system, and high speed computer processor. It is bound for the Navy Air Test Center, Patuxent River, Maryland, where it will undergo carrier suitability testing. Current Navy procurement schedules call for about 20 of these advanced version E-2C's during the next several years.

The new Allison 427 twin turboprop engines will replace the Allison 425s that power present E-2C's.

"The Allison 427 engines will provide better fuel economy and more power," says Harold Allen, program manager—development for the E-2C. "Over the years, new electronic equipment has been added to the aircraft, causing it to grow in weight. The new engines are a response to that weight growth."

Because the new engines operate at higher compression ratios, the aircraft will also have a new air-cycle system. Such a system works in conjunction with the engines to pressurize the cabin and provide heating and cooling.

The new APS-139 radar marks the culmination of the first part of the two-phase E-2C Update Development Program. The radar is being upgraded in two parts to better take advantage of the continuous advances in technology. Software is still being developed for the phase two radar, the APS-145, which is scheduled to go into production aircraft in 1990.

The APS-139 radar boosts the E-2C's antijamming and ship-surveillance capabilities, and offers improved signal processing and target tracking. Signal processing allows the collection of radar information in areas of electromagnetic interference (EMI), which may be caused by any electronic device that emits radio frequency signals. The next generation APS-145 will boost the radar's over-land performance and will increase its on-board computing power sixteenfold.

The new equipment cooling system is in preparation for the Joint Tactical Information Distribution System (JTIDS), which will be incorporated into the E-2C weapons system. This will become the Navy-standard data link, providing a secure communication channel between aircraft, ships, carriers, and the shore. Aboard the E-2C it will consist of electronic equipment that requires additional cooling.

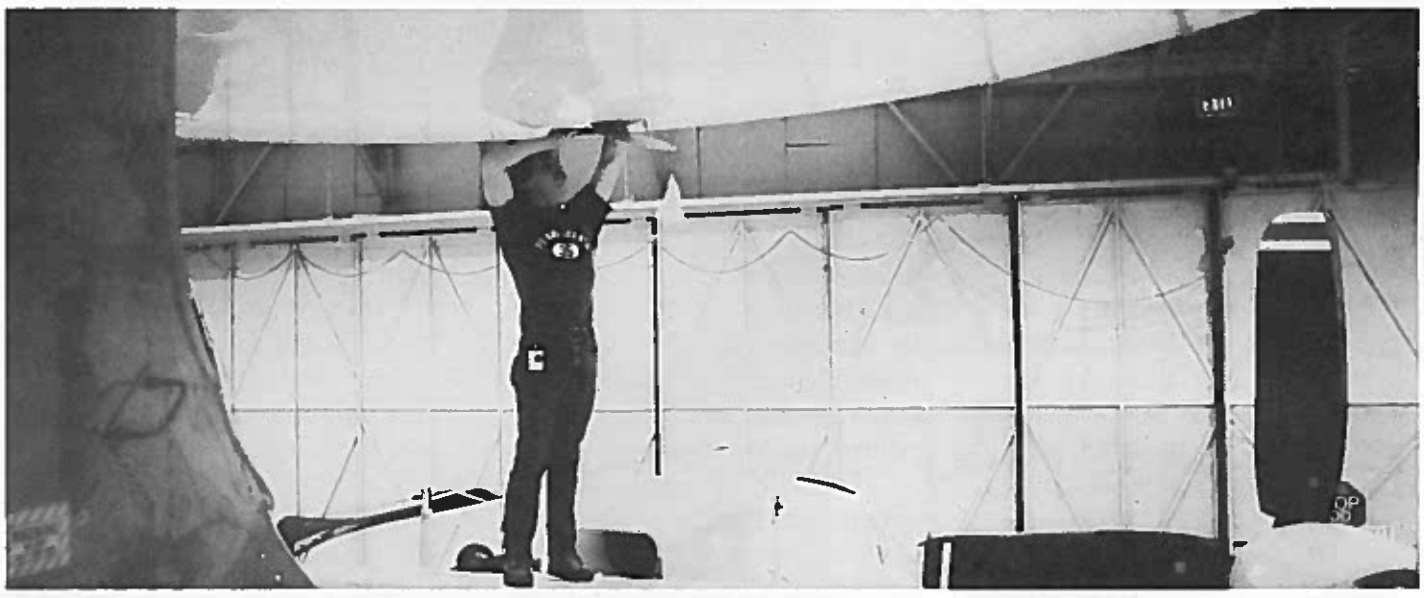
The flight tests of aircraft No. A-122 will evaluate the new engines. Carrier suitability tests will initially be conducted on land, using a catapult and arrestment apparatus installed in one of the runways at "Pax" River. For these flights, special instrumentation will be installed and measurements will be taken of engine and airframe parameters.

"These are commonly known as shake, rattle and roll tests," says John Koszeghy, E-2/C-2 flight test manager. "The aircraft will take a series of flights from land and then will go aboard an actual carrier, where it will be evaluated for real carrier operations."

While aircraft No. A-122 will evaluate the engines, No. A-123 will test the radar, associated avionics, and cooling system.

Aircraft No. A-124 will be involved in electromagnetic compatibility tests. All electronic systems work on electrical pulses, which can, when mixed, generate undesirable signals. Electromagnetic compatibility refers to the ability of electronic systems to work together without generating such interference.

"About a dozen Grummanites will be at Patuxent River at the height of the program," says Koszeghy. "They include pilots and weapon systems operators who will participate in the Navy flights, as well as ground support people from engineering and manufacturing."■



Thorough Check. *Patrick McEvoy, a senior plane captain for the E-2C in Building 4, Bethpage, inspects the Hawkeye's rotodome. A new radar boosts the plane's antijamming and ship-surveillance capabilities, and offers improved signal processing and target tracking. (Photo by Rich Breunig)*

Next Lecture Slated For May 26

Melvin Hartmann of NASA's Lewis Research Center in Cleveland, Ohio, will be the guest speaker at the next Leroy Grumman lecture.

The lecture will be held Thursday, May 26, at 4:30 p.m. in the Grumman Headquarters auditorium, Bethpage. Hartmann is director of Research and Technology Assessment at the Lewis Research Center. His topic will be advanced propulsion systems.

The lecture series was established in honor of Leroy Grumman, one of the company's founders and its first chairman and president. The series aims to continue his commitment to technical excellence.

All Grummanites are invited, but space is limited. To reserve a seat, call Mary Mickol at (516) 575-8770.■

Salisbury Goes Back To School

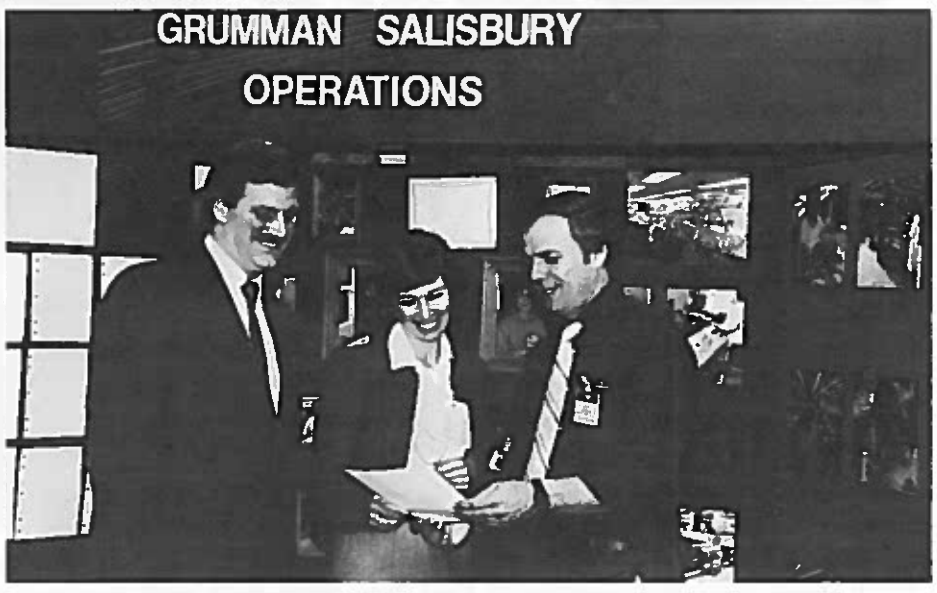
SALISBURY, Maryland — Grummanites from Electronics Systems' facility here recently met with local public school teachers and administrators to exchange information about education and the business environment.

"We are dedicated to the Salisbury community," says Tom Crawford, director of engineering at Salisbury. "The more informed schools are about the business world, the better they can prepare students to enter the work force."

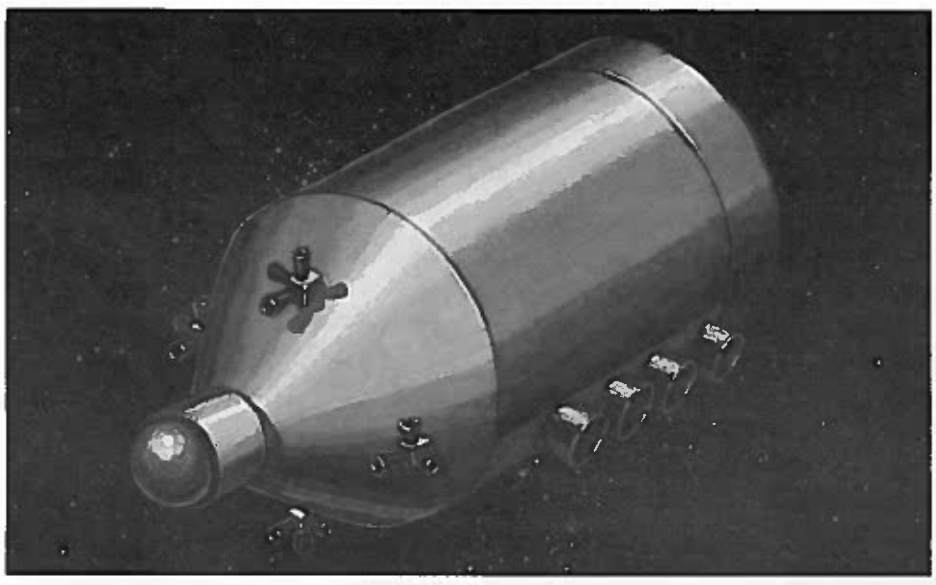
As part of the Americans for a Competitive Enterprise System (ACES) Program, educators visit with Grummanites two to three times a year to discuss topics such as what qualities the company looks for in a high school graduate, or what kinds of technology the students might be expected to use if employed at Grumman.

In addition to the ACES Program, the Salisbury facility also sponsors mini-workshops with the local junior and senior high schools. For example, at a recent workshop, students were given a demonstration on how a complex aircraft harness is fabricated.

Grummanites here are also developing a two-year accredited course in Material Management which will be offered in the fall semester at Salisbury's Wor-Wic Technical Community College.■



Exchanging Ideas. *Grummanites Tom Crawford (L) and Ed Urban, Salisbury plant manager, speak with Suellen Knowles of the Wicomico County Board of Education at a recent Americans for a Competitive Enterprise System meeting.*



A Different Space Power Source. *This is an artist's rendering of Grumman's space nuclear power supply concept. Space Systems will study the feasibility of using it for future electric power applications.*

Grumman To Study Space Nuclear Power

The U.S. Department of Energy has selected Grumman to study the feasibility of a specific type of nuclear reactor technology in space for future electric power applications. The study spans 10 months. Five other contractors received similar awards.

Work on the multimegawatt space reactor system is worth approximately $1 million to each of the contractors. Grumman Space Systems Division will conduct its study in Bethpage.

Grumman will explore the feasibility of using the reactor concept, which could provide high power for short intervals of time for defense systems requiring a large surge of energy.

"It's a burst power system providing hundreds of megawatts of electrical power for hundreds of seconds," says Bob Haslett, program director.

One megawatt equals one million watts. It usually takes approximately one megawatt to power 100 average size homes for a year.

"The Department of Energy has put major emphasis on the safety and reliability aspects of space nuclear power systems," says Haslett. "All contractors were told explicitly that if the systems aren't safe, they won't fly."

A safe and reliable multimegawatt space reactor power system may also be applicable to future civilian space missions and applications.

"If we are to continue space exploration, we must recognize nuclear power as the future in space energy," says Haslett. "The Soviets already use a nuclear reactor to power one of their satellites. The solar power systems now used are too large and structurally unwieldy."

Grumman has chosen to use the concept of a Gas Cooled Particle Bed Reactor originated by the Brookhaven National Lab in Long Island, N.Y.

In a nuclear reactor heat is generated during the fission process. Hydrogen is pumped to a high pressure and heated to a high temperature in the reactor. The hydrogen gas then runs through turbo generators and produces usable energy.

Grumman is teamed with Babcock & Wilcox of Lynchburg, Va., who will conduct reactor analysis on the project. Garrett Fluid Systems Division of Tempe, Arizona, will analyze the turbine/generator subsystem and Aerojet Technical Systems of Sacramento, California, will design the turbo pumps and the thrust neutralization system.

S-Cubed of Albuquerque, New Mexico, will provide nuclear safety and survivability oversight on the project for Grumman.

The other five contractors chosen to work on a Phase I concept are: Westinghouse Electric Corp., Madison, Pa.; General Electric Co., King of Prussia, Pa.; Rockwell International, Canoga Park, Calif.; GA Technologies Inc., San Diego, Calif. and Boeing Aerospace Co., Kent, Wash.

After the six contractors complete the Phase I evaluations, the Department of Energy intends to select one to three of the concepts for a more detailed Phase II development effort.

Funding for Phase II contracts is expected to be approximately $5 million per year per concept over a three to four year period. This second phase is expected to be completed by 1992.

The successful completion of Phase I and II work may lead to the selection of one concept for further engineering development, including a ground engineering system demonstration.■

Space Systems Bolts Ahead With Accelerator Idea

Space Systems shipped the world's only space flight designed nuclear accelerator, called the Radio Frequency Quadrupole (RFQ), to the Los Alamos, New Mexico, National Laboratory on Tuesday, February 2.

This unique device is being prepared for a launch into space next year to test the basic premises of neutral particle beam weaponry.

The accelerator must focus and speed up a stream of nuclear particles. This beam, in a future weapon, would be used to destroy incoming ballistic missiles.

The RFQ accelerator concept was developed by Los Alamos. "It replaces a direct current accelerator that's three times the size of this room," says Grumman design engineer John Rathke, indicating a space on the first floor of Building 25 that could house two or three racquetball courts.

The RFQ accelerator is a one-meter long, eight-sided tube, about six and a quarter inches from side to side and weighing about 110 pounds.

The radio frequency quadrupole is hollow inside, except for four vanes that almost meet in the center to form a "plus" sign. The beam travels through the small space between them.

Grumman and its competitors had been hard-pressed for nearly three years to find a way to build the radio frequency quadrupole.

Grumman's competitors all planned to bolt the various pieces together. Grumman engineers felt, however, that a bolted-up unit wouldn't be rigid enough to stay in alignment for the bumpy, bruising trip into space.

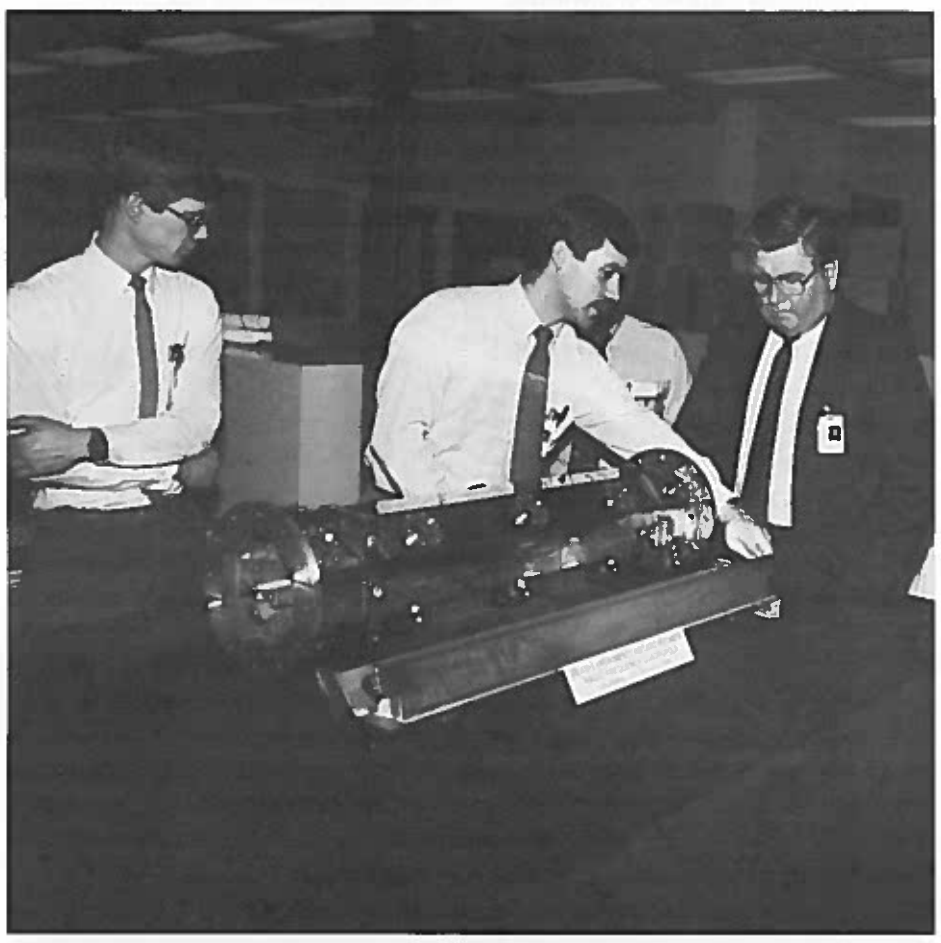
"If the vanes move by 50 millionths of an inch, the beam is ruined," says Rathke. "With bolts you can never expect to keep it that tight."

Grumman's way to get around bolting the four pieces together was to electroform them with copper into one solid unit. The copper electroforming process gives the RFQ excellent electrical conductivity and, much more importantly, perfect alignment and rigidity.

"This has never been done before," Rathke explains. "To plate the copper to the aluminum, the pieces are placed in a bath of sulfuric acid, which would normally dissolve the aluminum."

Radio frequency engineer Jim Rose says that, at Los Alamos, the first accelerator will be tuned, linked to a ground test stand, shake tested, then prepared for a launch in an ARIES rocket in March 1989.

"When it's fired in space we'll learn how well the accelerator will operate and how the beam will interact with the earth's magnetic field," says Rose.■



Show And Tell. *Engineers Jim Rose (L) and John Rathke (C) explain the workings of the radio frequency quadrupole to Grumman Vice Chairman—Development Dan Huebner. The piece Rathke is pointing to is one of four nearly-identical sections of a quadrupole. The only one of its kind designed for space flight, the quadrupole is now at the Los Alamos National Labs being prepared for a test in space. (Photo by Rich Breunig)*

Quick Results. *Ace Rossi and Corey Hyatt program the computer to test one of the three EA-6B radios. They can be tested against each other as well as against other equipment on the plane. (Photo by Karl Thoma)*

This New Test Computer Is All Ears

CALVERTON, Long Island — A new computer system is substituting for the human ear in tests of three new radios for the EA-6B Prowler.

The EA-6B is parked inside Calverton's anechoic hangar and linked to a Digital Equipment Corporation computer, software, audio distortion analyzer and other test equipment next door. The computer sets a transmitter as well as the radios aboard the aircraft, automatically beaming signals at the plane and advancing to the next frequency. A video camera and monitor provide a view of the moving parts on the plane and the instrument clusters.

Previously, a person in the cockpit adjusted the radio by hand and listened for distortion while somebody in the next room set the transmitter. The new method is faster, safer, and keeps better records.

"We can now run a test sequence in one-sixth to one-seventh the amount of time it used to take," says Corey Hyatt, an EA-6B electrical engineer. "We've gone from doing 1,500 tests a week to about 12,000."

The high-frequency ARC-199 and two VHF/UHF ARC-182 radios will go into production EA-6B's this summer. The radios must be tested throughout the frequency spectrum for interference with each other as well as with other electronic and structural parts of the aircraft.

Any moving part can create what's popularly called "noise" or interference on the radios. Besides, radio waves can cause vital aircraft control surfaces, such as the flaperons, to move.

The engineers prefer to run an hour of tests, then stop and analyze the results. During that time, the test system will check about 150 frequencies, advancing in 1.125-frequency increments.

"All the test data is stored in the computer," says John LaSalle, electrical engineer. "You can call it back later to study trends, such as at what frequencies a problem occurs."

Though it never happened, there used to be the risk of someone turning on the transmitter before the person in the plane lowered the canopy. This results in severe burns.

Another reason the engineers looked for a way to computerize the testing process was the ever-increasing complexity of the electronic systems aboard the Prowler. There are many more potential glitches to check.

The software took about a year to develop. "It consists of nine distinct computer programs: three radio versus equipment and six radio versus radio programs," says Ace Rossi, software engineer. "It's now much easier to switch modes. You don't have to go out to the aircraft and flip a switch — you just push a few buttons on the computer terminal."

The group has found that certain test procedures still require manual testing. Such tests also enable a problem to be analyzed in-depth. "We ran tests both ways for awhile to make sure it worked, and found the computer was doing a better job than we were at catching errors," says Rossi. "Eventually this can be used on any aircraft with the 1553 databus and these same radios.

"We have a lot of testing to stay on schedule," he continues. "Some Fridays we're here until 10 at night. We get tired — but the computers don't."■

Sight And Sound. *John LaSalle checks the video monitor as radio frequencies are beamed at the Prowler. (Photo by Karl Thoma)*

Many Receive New Assignments

The following Grummanites recently received new assignments:

Aircraft Systems

Bethpage Operations: Frank DeRosa, foreman, Final Assembly; Joseph Falco, production manager, Major Assemblies.

Configuration Data Management: Robert M. Coughlin, assistant manager, E-2/C-2 Configuration Management; Mark Soley, manager, F-8II Peace Pearl; Michael Tagliaferro, manager, F-14 Software.

Manufacturing Engineering: Frank Pluhar, producibility representative, EA-6B Program; Al Facini, producibility representative, E-2C Program; Reno Napoli, producibility representative, A-6E Program.

Material Operations: William Waters, assistant to the director; in Government Material Control: Robert Sikora, assistant manager; Joseph Rice, supervisor; Joseph J. Brandt, assistant manager; Camille Fullshire, supervisor; Larry Vitale, supervisor; Bruce Hurley, supervisor, Operational Management Control.

Technical Operations: Milton Farkas, group head, Liaison Engineering; John Flynn, engineering specialist, Environmental Test; Edward Laurie, engineering specialist, Aeroservoelasticity; Leo Wolfshmidt, technical specialist, Advanced Computer Systems; Gondolfo Gallegro, technical specialist, Antenna Design and Wave Propagation; Walter Grote, engineering specialist, Antenna Measurements; George Bolden, group leader, William Shephard, group leader, Antenna/Radome Laboratory; A. Mel Cohen, engineering specialist, Communications Analysis; Maurice Urrutia, project leader, E-2C Detection Subsystems; Robert McGill, project leader, Electromagnetic Technology; Lawrence Kipnis, program engineering manager, F-8II Peace Pearl; Thomas Griffin, project leader, Flight Sciences, F-14 Program; James H. Wernert, engineering specialist, Functional Design and Architecture; Thomas C. Lazicky, engineering specialist, Interactive Graphics; Richard Englemark, group leader, Radar, F-14 Program; Richard Bocchicchio, technical specialist, Thermodynamic Technology; Peter Keefe, computing manager, Advanced Programs.■

Make It At Grumman

March 15 is the application deadline for the Grumman Manufacturing Engineering/Technology Scholarship.

The program is open to all Grummanites and to Long Island residents. To be eligible, you must have an associate's degree in mechanical engineering/technology, or two years of engineering school.

Scholars receive annual awards, which are applied toward tuition, fees, and expenses for their four-year degrees. It can be used for any accredited program in manufacturing engineering or technology.

For more information, call Fred Neuscheler, (516) 575-8268.■

O'Brien Criticizes U.S. System Of Developing New Weapons

Grumman President and Chief Executive Officer John O'Brien addressed members of the National Aviation Club in Arlington, Virginia, on Thursday, February 25. During his speech, O'Brien criticized the United States system of developing new weapons. A complete transcript of his speech follows:

"When I got this job, several of my friends went to some trouble to make sure that I was not taking myself too seriously. One of them sent me the account of an interview with Field Marshall Joffre after World War I. The reporter asked who deserved the credit for France's great victory at the Marne. Joffre pondered a moment and then said, 'I really don't know — but if we had lost, I know who would have gotten the blame.'

"I find that my new job does give me a little different perspective on winning and losing and on some other aspects of our business today. For example, I'm now convinced that the easiest way to fail in this business may be by winning.

"I also think that obligating contractors to buy into development programs will not save money but actually cost the taxpayer more.

"I'm convinced that some defense industry profits are too high.

"And that modern weapon systems — or at least modern combat aircraft — do not cost any more than their World War II ancestors.

"Now, just in case not everyone here agrees with all of that, let me offer some evidence, beginning with the last proposition.

"Grumman built 12,000 Hellcats during the war for about $85,000 apiece. Today, we're building Tomcats for about $35 million apiece. I would agree that the price tag is higher — but let's look at the cost.

"First, when we inflate 1945 dollars into their 1988 equivalent, we get a Hellcat price of $820,000. Still a lot less than $30 million, but look at some of the other elements of cost.

"Because of attrition and fatigue, the average peacetime life of a Hellcat was about 20 months. The Tomcat lasts 20 to 25 years. By today's standards, the rugged Hellcat — which earned Grumman the nickname 'Iron Works' — was a throw-away airplane. And, of course, when you lost a Hellcat — and we lost seven percent a month during World War II — you often lost a trained pilot with it. Today, F-14 attrition is less than one percent a year.

"When you normalize for inflation and then compare the cost of maintaining one aircraft at sea for 20 years, the Hellcat turns out to cost about as much as the Tomcat.

"Look at what both planes were designed to do. The Hellcat flew in good weather to engage the enemy one-on-one at close range with machine guns. The Tomcat flies in any weather to engage as many as six enemy planes at ranges up to a 100 miles with independently targeted missiles. Arguably, that is six for one — at the same cost. That is called a bargain.

'I'm convinced that some defense profits are too high.'

"Let me see if I can sell you another proposition that defies the conventional wisdom — that obligating contractors to buy into the development of new weapon systems at current levels will not save the taxpayer money, but will cost him more.

"Consider the ATF. There have been some Air Force estimates that each prime contractor team will invest $600 million in the competition. Their multiple tiers of subcontractors will also invest. If the Air Force estimate is accurate — and you'd expect it to be low — then the industry as a whole will have about one and one- half billion dollars invested in this plane by the time the prototoypes fly.

If there were no more investment — nothing for further development, nothing for tooling — and if there were no inflation and no cost of debt service, then I estimate that the industry would recover its investment in ATF when about the 400th airplane is delivered — maybe.

"Grumman isn't in that competition and so I don't have any more information about it than most of you, and probably less than some of you. But we were in a competition for another new airplane that I'm not supposed to even mention by name. It's gotten enough publicity that I think you know what it is and I think you know that we were on the losing team. Those costs and risks I understood in detail, and I can tell you that to win at the cost line, we would have had to bid a price that made no more business sense to me than does the ATF program.

'If we allow competition to turn into a contest to see who bleeds the longest, no one wins.'

"Which is why I offer the proposition that the easiest way to fail in this business may be by winning.

"In case that sounds like sour grapes to some of you, let me quickly add that to succeed — or even survive — we all have to win new business. The only right way to select winners is by competition — which must produce losers as well as winners.

"If we allow competition to turn into a contest to see who can bleed the longest, no one wins and we only drain the strength of the industry.

"Secretary Costello has recognized that and has had the intellectual honesty to say so. 'In the long run,' he said, 'If we do not deal fairly with our contractors, we will have fewer and weaker contractors willing to do our business.' He didn't add the obvious, which is that fewer and weaker contractors will be less able to do research and development, to invest in cost-saving equipment and to compete effectively in world markets. All of that adds up to higher costs for new military systems, which the U.S. taxpayer would have to pay.

"And all of that ignores the immeasurable cost of inferior American military systems.

"Secretary Costello went on to say that firm fixed-price development contracts are 'unfair' and that the campaign the Navy's been leading since 1985 to make all development contracts firm fixed-price 'requires re-thinking.'

'The easiest way to fail in this business may be by winning.'

"You bet it does. He's absolutely right that the Pentagon must introduce some fairness into development contracting. But if we begin to change the rules for competitions like the ATF that are already under way, what happens to those of us who dropped out or lost out because we were unwilling to go to the wall on a contract that the government now decides would be unfair? Do we take everyone back to 'go' and start over again? Do we unwrap some of the recent contracts awarded by what we now recognize was an unfair process and run new competitions? It's going to be interesting to see.

"Finally, let me see if I can prove that some defense industry profits are too high.

"First, I have to acknowledge that analysis shows that commercial business is 40 to 70 percent more profitable than government business across the board. That certainly doesn't surprise any of you. But there's a hidden profit, a profit paid by the government on defense contracts that passes right through our industry to the financial houses that lend us our operating capital.

"From the point of view of public policy, this makes no sense at all. The Federal Government can borrow at lower interest rates than any company, but it makes progress payments for only 75 percent of the work-in-process cost. It pays only 50 percent of the cost of tooling and test equipment. The contractors now must finance these costs, not at the rate the government would pay but at commercial rates.

"Look at the consequences. In addition to funded research and development, our industry invests more than a billion and a half dollars of profit every year in developing the new technologies this country needs for defense. That's a lot of money, but we could invest a lot more. The interest we pay to finance our operations under current policies is lost to our industry and used by the financial institutions for other purposes — such as covering losses on loans to Third World countries, I suppose.

"Now let me ask you: If the business practices of our industry today do indeed produce fewer and weaker companies, who deserves the blame? I could round up the usual suspects: the military reform zealots, the opportunistic press, the passing-through-the-Pentagon officials who know that the consequences of what they do will not occur on their watch, the micromanaging Congress. They will all be entitled to a share of the blame.

"But this is our industry. It is vital to American security and to world peace, but what happens to it is the responsibility of the leaders of the industry — your responsibility and mine."■

InfoConversion Has The Inside Line On Taxes

Tax reform — as April 15 nears, you're probably hitting the books. And you may be cramming with some publications produced by InfoConversion for the Internal Revenue Service.

Last July, this unit of Grumman Data Systems Division began providing typesetting, page makeup and database services for the IRS' Taxpayer Information Publications (TIPS). There are 90 such publications ranging from four-page booklets to 200-page volumes. The contract is worth about $350,000 annually to InfoConversion.

"The TIPS are printed in runs of tens of millions, making them among the most widely circulated publications in the U.S.," says George Devine, president of InfoConversion. "Most are edited quite a bit from year to year. So, they are well-suited for InfoConversion's electronic publishing service."

Electronic publishing uses a master database stored in a computer. Each part of a document is coded. When it must be revised, it does not have to be rewritten from scratch. Unchanged text can be retrieved from the electronic database. InfoConversion provides the IRS with page originals, or mechanicals.

The publications are authored by IRS tax analysts; InfoConversion receives typewritten manuscripts. Text, typesetting, and page-composition commands are entered using a variety of computer terminals. InfoConversion also recently began using a desktop publishing system and laser printer to help design pages.

InfoConversion produces most TIPS front-to-back. Some contain new forms or charts that are later inserted by the Government Printing Office. Still, InfoConversion handles its share of tax tables.

"One publication alone had 80 pages of tables," says Lucia Cutrona, program supervisor.

The normally heavy editing by the IRS was made more so by tax reform. "Even now, some of the IRS' instructions regarding tax shelters have not been made final," says Devine.

Among the changes: Publication 17, *Your Federal Income Tax*, totals over 200 pages and has a circulation of 27 million. "In addition, this year the IRS will issue a 40- to 48-page version," says Cutrona. "It will be mass mailed to all 103 million U.S. taxpayers in June. So you see how the TIPS grow every year."

On top of all that, the IRS made heavy revisions to pages. InfoConversion produced an average of eight versions of each before the IRS made the text final. This is due to continuous tugs-of-war on Capitol Hill.

"This production volume is not expected to slacken for another few years," says Cutrona. "Ramifications of tax reform are just beginning to be addressed by the tax analysts and the Government Printing Office."

The job doesn't end with the delivery of final pages to the government. InfoConversion is now organizing the entire TIPS database to conform to the government's Standard Generalized Markup Language (SGML). In SGML, each document division (i.e., chapters, paragraphs, and tables) is assigned a generic tag.

Among its benefits, SGML makes tedious changes a snap. Suppose an author wanted to index all chapter titles, plus change the typeface for several publications. With the information SMGL-tagged, the data entry operator would just punch a few keys.

"The IRS is trying to make it easier for taxpayers to understand the law," says Cutrona. "That will require providing more information to the public. We are ready to take on whatever additional work is required, in whatever medium the IRS wants."■

EIP Meeting Set For March 24

The annual meeting of the Grumman Employee Investment Plan takes place Thursday, March 24. All plan members are invited to attend the meeting, which starts at 5 p.m. in the Grumman Headquarters' auditorium.

Representatives of the firms that manage the equity, fixed income and guaranteed income funds will be present as well as representatives of the bank recordkeeper.

There will be reports on the performance of the plan's funds over the past year and projections of their future performance. Attendees will have the opportunity to ask the plan's managers questions.

A summary of the meeting will be published in an upcoming issue of *Grumman World*.■

Taxpayer Update. *At Grumman InfoConversion in Woodbury, Long Island, Joan Grutzmacher prepares text for an Internal Revenue Service publication. The unit provides typesetting, page makeup and database services to the IRS. As tax reform continues to take shape, a standard document organization method simplifies revisions. (Photo by Rich Breunig)*

Obituaries

Reynolds P. Hall of Production, Point Mugu, Aircraft Systems Division, died Jan. 27 at the age of 51. He had been with the company since 1958 and resided at 4132 Blackwood St., Newbury Park, California.

Retiree Obituaries

Charles W. Bergener of 4000 Fletcher Ave., Tampa, Florida, died Feb. 9, 1988. He retired in 1971.

Lawrence B. Gafney of 14 Rosalie Pl., Patchogue, N.Y. died Feb. 10, 1988. He retired in 1987.

Glen Alvin Herndon of 4915 Greenbrier Ave., San Diego, California, died Dec. 5, 1987. He retired in 1968.

Rosario LaPardo of 1716 N. Thompson Dr., Bay Shore, N.Y., died Feb. 6, 1988. He retired in 1975.

Howard Lovig of 23 Marlin Rd., Centereach, N.Y., died Feb. 5, 1988. He retired in 1978.

Dominick Maimone of 51 Whittier Ave., Medford, N.Y., died Feb. 12, 1988. He retired in 1982.

Albert Margarita of 4 Pierre Dr., Irvine, California, died Feb. 10, 1988. He retired in 1986.

Thomas Pannullo Jr. of 15 14th St., Bayville, N.Y., died Feb. 9, 1988. He retired in 1984.

Harry E. Proaper of 7641 45th St., Pinellas Park, Florida, died Feb. 1, 1988. He retired in 1969.

Kenneth Sealey of 24 Morton Ave., Hempstead, N.Y., died Dec. 30, 1987. He retired in 1978.

James M. Yeager of 1473 Third St., West Babylon, N.Y., died Nov. 1, 1987. He retired in 1981.

Stanley P. Yoniack of 20 Cherry St., Glen Head, N.Y., died Dec. 9, 1987. He retired in 1974.

Leo Ziegler of 3204 Portofino St., Coconut Creek, Florida, died Dec. 10, 1987. He retired in 1980.

Personals

I would like to express my thanks to all the friends at Grumman who helped me and my family through the difficult time of the sudden passing of my husband Robert. Your prayers, thoughtfulness and sincere expressions of love were greatly appreciated and helped ease our pain. **Marilyn Nolan and Family**

I would like to thank all my co-workers, friends and ESO for all their prayers, cards, phone calls, flowers and visits. Your kind expressions of affection and support were greatly appreciated during my recent illness. God bless you all. **Marie Crescenti**

I would like to thank all of the wonderful people in Food Services, Food Accounting and ESO for their kindness and thoughtfulness during my recent illness. **Doris Coccaro**

I would like to express my sincere and heartfelt thanks to all my Grumman friends for making my retirement a memorable occasion. **Rocky Cessario**

My family and I wish to extend our sincere appreciation and thanks to all our friends in the Finance department, Business Analysis group and ESO for the beautiful flowers, cards, phone calls and all other acts of kindness expressed to us during the recent loss of our father Otto Schindlar. **Peggy and Charlie Buxton**

I would like to thank my friends, co-workers, and the ESO for their kind expressions of sympathy following the loss of my mother. **Al Daum**

My family and I thank our friends, co-workers and ESO for their kind expressions of sympathy and support during the recent loss of my mother. **Werner Lamberty and Family**

My family and I wish to thank all my friends and ESO for their many kind expressions of sympathy over the recent loss of my wife. **Louis Stauch and Family**

How Secure Is Your PC?

The growing number of personal computers (PCs) at Grumman has prompted Data Systems' Information Security Department to turn its attention to the security of the PC and its data.

There are more than 4,000 employees using over 2,500 PCs at Grumman. The PC population is growing at about 10 percent a year.

Because they are easy to pick up and walk off with, PCs are prime targets for theft and unauthorized access.

Information Security is responsible for the protection of most computers at Grumman, with the exception of those used on Department of Defense classified programs.

With the recent rise in computer theft, Information Security is concentrating on informing Grummanites of the importance of PC protection.

"People must become more concerned with computer security," says Art McIntyre, Information Security manager. "In the last 20 years, everyone has been so caught up in the advancing technology of the systems that security has taken a back seat."

Tops on the list of suggestions from Information Security is to lock up PCs in rooms and to monitor who has keys to those rooms. If this is not possible, lockable cabinets, cables and bolt-down mounts can secure a PC to one area.

Grumman is using a locking mechanism developed and patented by former Grummanite Todd Gaenzle and Bill Zeidler of Grumman Systems Support. The lock solidly secures up to six PC components, including printers and modems, to a desk or other hard-to-move surface.

The security mount fastens the components without having to drill holes in the shell of the devices. This is an important feature because computer dealers will not warranty hardware once the unit has been opened.

If it is necessary to take the PC off company premises, authorization is needed from Information Resource Management and Information Security. A property pass is also required.

In addition to hardware protection, PC users should be concerned about protecting the data stored in their PCs and on diskettes. Information stored on diskettes that is proprietary should be labelled and locked in drawers or cabinets. In addition, hard disks must be erased before being given to a vendor for repair.

For PCs with direct hookups to the mainframe computers at Grumman, security becomes even more critical. Grumman has implemented The Access Control Facility (ACF II) software program to protect data. The program controls who uses the computer by requiring log-on identification and a password. This limits unauthorized access to the computer and stored data.

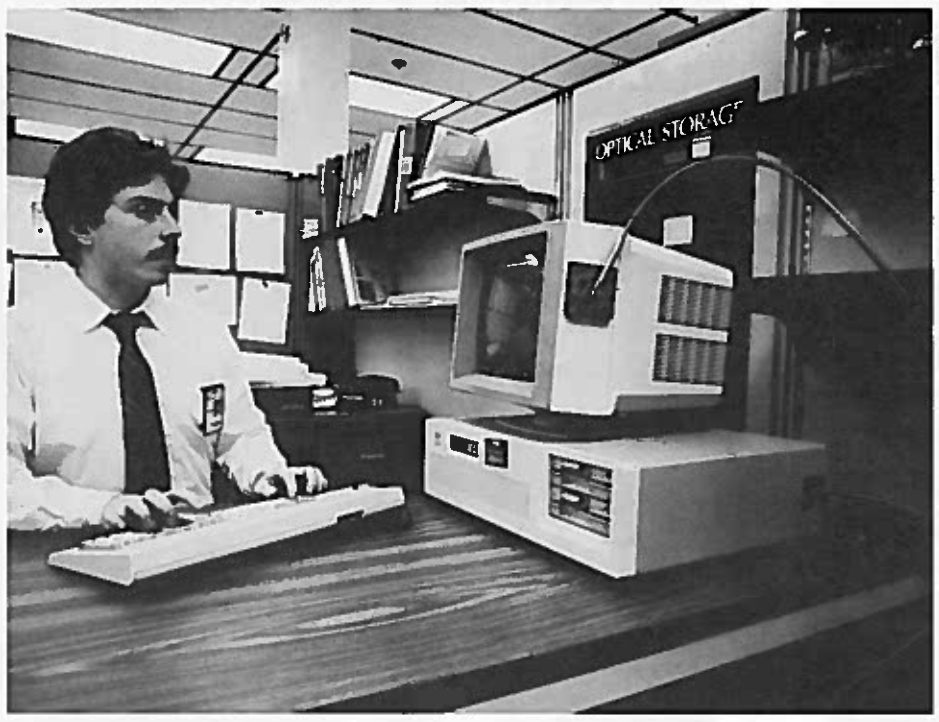
For example, a PC user logs on to a mainframe system with his I.D. and password and is allowed access to data he is cleared for. If he should try to access data owned by others, such as the payroll system, he will need additional coding. If he has not been cleared for that system, he will be denied access, and the computer will record his request for access as a security violation.

Disaster recovery plans should be developed. Alternative processing locations should be provided for systems critical to the operation of the company. In addition, copies of important diskettes should be stored away from the PC.

The Information Security Department distributes pamphlets explaining proper PC safety practices. In the upcoming months, the Information Security staff will speak at sessions around the company to remind Grummanites of their responsibilities and obligations as PC users.

"Security is perceived by most people as being a hindrance to their jobs," says McIntyre. "Our aim is to make it second nature for the PC user."

If you have any questions about how to better protect the PCs in your working area, contact Art McIntyre at (516) 575-4465.■



Desktop Security. *Richard Condelles, systems analyst, (above), secures his PC and its components to the desktop with a Grumman patented cable locking device. When Bernard Colasuonno, Data Systems' manager of Network Planning, finishes work, he will lock his PC in this cabinet. (Photo by Rich Breunig)*

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Next Issue: March 25

Readership Survey

We don't want to do all the talking. We'd like to know what you think about the things you see in these pages. Your comments, suggestions and complaints are welcomed. Please take a few minutes and give us your opinions.

Article	Great	Good	Poor	Didn't Read
DMMIS (P. 1)	☐	☐	☐	☐
E-2C Hawkeye (P. 2)	☐	☐	☐	☐
Space Contracts (P. 3)	☐	☐	☐	☐
O'Brien Speech (P. 5)	☐	☐	☐	☐
Infoconversion (P. 6)	☐	☐	☐	☐
Chairman's Letter (Back Cover)	☐	☐	☐	☐

Suggestions For Future Articles:.....

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GrummanWorld
March 11, 1988

(Photo by Karl Thoma)

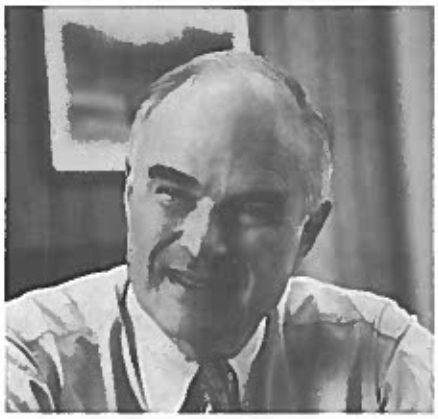
Slim And Trim

While the main use of Engineering's Fuel Lab in Calverton, Long Island, is to develop fuel systems for aircraft, it occasionally gets other assignments.

Lab manager Bob Mosher supervises the weighing of an F-14 to make sure that the weights and center of gravity are within specifications. All production F-14s are weighed before they are delivered.

The plane is drained of fuel and rolled onto huge lever scales, one for each of the landing gear. After the plane is leveled, the engineers record the weights. Measurements between the landing gear and between main gear and a spot behind the nose gear called the jig point are also made. Later, the engineers calculate the plane's center of gravity by factoring in standard weights for pilots and fuel.

A Letter from the Chairman



Three years ago, we reorganized Grumman into divisions to better suit the markets and business conditions we deal with. We have spoken before about this new structure overall — but not about the role of each division as part of the whole.

In this and in upcoming issues of *Grumman World*, I'd like to talk about each division separately. Taking them in alphabetical order, the first in line is Grumman Aerostructures.

Back in the 1960s and early '70s there was a frame of mind in our company that subcontracting work was a lesser sort of business. Grumman saw itself as a prime contractor, and only as a prime. All those jobs out there, those bits and pieces of things, were fine for other companies — but not for prime contractors.

However, around 1974 we realized that the more bits and pieces we had the more stable and diversified our business base was. Also, if we organized well, we could utilize our total capacity.

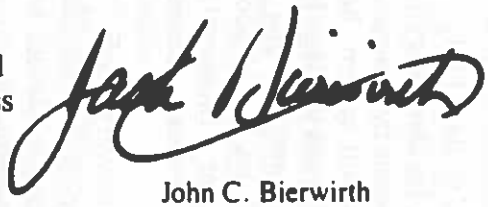
Aerostructures' 1987 sales of $177 million — up 40 percent over the previous year — have proved that we were wise to change.

The division's main products are nacelles, thrust reversers, pylons and other structures for military, commercial and business aircraft. It also provides modification kits for the upgrade of existing aircraft, and components for space systems and missiles.

The overall market for subcontract work is expected to grow to about $6 billion by the early 1990s; we're aiming for $350 million of this by 1992. Growth, however, is not an open-ended opportunity, for we will restrict ourselves to programs that are important to our overall planning and which can be fitted into our current capacity. Success is a matter of choosing well and then winning.

The programs in which Aerostructures is involved compose an arresting and impressive list: for instance, Boeing's 757 and 767 aircraft, General Electric's transcowl, our own S-2T, McDonnell Douglas' C-17, the Bell/Boeing V-22, Avco's MX missile, British Aerospace's 125, the Dassault Falcon 50 and Gulfstream's G-IV. The range of these programs reflects the variety of Grumman's expertise. They also constitute important relationships for the long term. Besides being profitable, these programs fulfill the requirements for equipment utilization at several Long Island sites, in St. Augustine, Stuart and Milledgeville.

Aerostructures is a good first subject in this series of letters about our divisions because its cooperation with Aircraft Systems, Electronics Systems, St. Augustine and International is a good example of divisional interrelationships. All together, we are solid, effective competition in our industries — and Aerostructures is playing its part very well.



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